

MAR 06 2007

Serial No. 10/090,939  
Page 3 of 13**IN THE CLAIMS**

1. (currently amended) A transmission device performing transmission control on a ring network comprising:

a setting information relay unit relaying setting information that sets a specific channel as a non-preemptible channel restricted from being used for restoration;

a channel establishment unit determining, by referring to the setting information, whether a channel of interest should be set as said non-preemptible channel and establishing the channel; and

a route switch control unit recognizing a section in which said non-preemptible channel that is not used for restoration has been established and a fault bypass control condition at the time of occurrence of a fault and performing a route switching control based on a result of recognition, wherein:

the setting information includes NUT (non-preemptible unprotected traffic) table information that contains a start transmission device ID (identification) and an end transmission device ID that indicate a section in which said non-preemptible channel should be established, a type of setting for setting said non-preemptible channel, and a relay direction; and

said channel establishment unit recognizes and establishes said non-preemptible channel via a designated write address in which the NUT table information should be written.

2. (original) The transmission device as claimed in claim 1, wherein said setting information relay unit uses an idle byte out of overhead bytes in order to relay the setting information.

Serial No. 10/090,939  
Page 4 of 13

**3. (canceled)**

4. (previously presented) The transmission device as claimed in claim 1, wherein:  
said setting information relay unit sends the setting information including an  
establishment request message, and sends an establishment execution message after receiving a  
normal response sent back thereto; and

    said channel establishment unit receives the establishment execution message and  
establishes said non-preemptible channel.

5. (previously presented) The transmission device as claimed in claim 1, wherein said  
setting information relay unit of a start transmission device is externally provided with the setting  
information, the setting information externally provided being relayed to an end transmission  
device, so that said non-preemptible channel can be established.

6. (previously presented) The transmission device as claimed in claim 1, whercin the  
setting information is relayed to all transmission devices in the ring network from the setting  
information relay unit in a transmission, so that said non-preemptible channel can be established.

7. (currently amended) The transmission device as claimed in claim 1, wherein, when  
line switching is performed at ends of a line in which a fault occurs as the fault bypass control  
condition, the route switch control units in the transmission devices located at the ends of a-the

Serial No. 10/090,939

Page 5 of 13

line in which ~~a~~the fault occurs perform route switching if a fault bypass route does not have any section in which said non-preemptible channel has ~~not~~ been established, and do not perform route switching if a fault bypass route has a section in which said non-preemptible channel has been established.

**8. (currently amended)** The transmission device as claimed in claim 1, wherein, when line switching is performed at ends of a path as the fault bypass control condition, the route switch control units in the transmission devices located at the ends of the path perform route switching if a fault bypass route does not have any section in which said non-preemptible channel has ~~not~~ been established, and do not perform route switching if a fault bypass route has a section in which said non-preemptible channel has been established.

**9. (currently amended)** A transmission system performing transmission control on a network comprising:

    a plurality of transmission devices each comprising a setting information relay unit relaying setting information that sets a specific channel as a non-preemptible channel restricted from being used for restoration;

    a channel establishment unit determining, by referring to the setting information, whether a channel of interest should be set as said non-preemptible channel and establishing the channel;

    a route switch control unit recognizing a section in which said non-preemptible channel that is not used for restoration has been established and a fault bypass control condition at the

Serial No. 10/090,939

Page 6 of 13

time of occurrence of a fault and performing a route switching control based on a result of recognition; and

transmission media connecting the plurality of transmission devices in a ring formation so that a ring network is formed, wherein:

the setting information includes NUT (non-preemptible unprotected traffic) table information that contains a start transmission device ID (identification) and an end transmission device ID that indicate a section in which said non-preemptible channel should be established, a type of setting for setting said non-preemptible channel, and a relay direction; and

said channel establishment unit recognizes and establishes said non-preemptible channel via a designated write address in which the NUT table information should be written.

10. (currently amended) A transmission device on a ring network comprising:  
a setting information relay unit relaying NUT (non-preemptible unprotected traffic) setting information for setting a specific channel to a NUT setting for setting said that sets the specific channel as a NUT channel restricted from being used for BLSR (Bi-directional Line-Switched Ring) restoration;

a channel establishment unit determining, by referring to the NUT setting information, whether a channel of interest should be set to the NUT setting so as to establish said NUT channel; and

a route switch control unit recognizing a section in which said NUT channel has been established and a fault bypass control condition at the time of occurrence of a fault and performing a route switching control based on a result of recognition, wherein:

Serial No. 10/090,939

Page 7 of 13

the NUT setting information includes NUT table information that contains a start transmission device ID (identification) and an end transmission device ID that indicate a section in which the NUT channel should be established, a type of NUT setting including a basic NUT and an enhanced NUT, and a relay direction including an east direction and a west direction; and said channel establishment unit recognizes and establishes the NUT channel via a designated write address in which the NUT table information should be written.

11. (original) The transmission device as claimed in claim 10, wherein said setting information relay unit uses D bytes out of overhead bytes in order to relay the NUT setting information.

12. (canceled)

13. (original) The transmission device as claimed in claim 10, wherein:  
said setting information relay unit sends the NUT setting information including an establishment request message, and sends an establishment execution message after receiving a normal response sent back thereto; and  
said channel establishment unit receives the establishment execution message and establishes the NUT channel.

14. (original) The transmission device as claimed in claim 10, wherein said setting information relay unit of a start transmission device is externally provided with the NUT setting

Serial No. 10/090,939  
Page 8 of 13

information, the NUT setting information externally provided being relayed to an end transmission device, so that the NUT channel can be established.

15. (original) The transmission device as claimed in claim 10, wherein the NUT setting information is relayed to all transmission devices in the ring network from the setting information relay unit in an arbitrary transmission, so that the NUT channel can be established.

16. (currently amended) The transmission device as claimed in claim 10A transmission device on a ring network comprising:

a setting information relay unit relaying NUT (non-preemptible unprotected traffic) setting information for setting a specific channel to a NUT setting that sets the specific channel as a NUT channel restricted from being used for BLSR (Bi-directional Line-Switched Ring) restoration;

a channel establishment unit determining, by referring to the NUT setting information, whether a channel of interest should be set to the NUT setting so as to establish said NUT channel; and

a route switch control unit recognizing a section in which said NUT channel has been established and a fault bypass control condition at the time of occurrence of a fault and performing a route switching control based on a result of recognition, wherein, when the BLSR employs line switching that is performed at ends of a line in which a fault occurs as the fault bypass control condition, the route switch control units in the transmission devices located at the ends of the line in which the fault occurs perform route switching if a fault bypass route does not

Serial No. 10/090,939

Page 9 of 13

have any section in which the NUT channel has not been established, and do not perform route switching if a fault bypass route has a section in which the NUT channel has been established.

17. (currently amended) The transmission device as claimed in claim 10, wherein, when line switching for the BLSR employs a submarine BLSR in which line switching is performed ~~restoration takes place~~ at ends of a path as the fault bypass control condition, the route switch control units in the transmission devices located at the ends of the path perform route switching if a fault bypass route does not have any section in which the NUT channel has not been established, and do not perform route switching if a fault bypass route has a section in which the NUT channel has been established.

18. (currently amended) A transmission system performing a transmission control on a network comprising:

a plurality of transmission devices each comprising a setting information relay unit relaying NUT (non-preemptible unprotected traffic) setting information for setting a specific channel to a NUT (non-preemptible unprotected traffic) setting that sets the specific channel as a NUT channel restricted from being used for BLSR (Bi-directional Line-Switched Ring) restoration, a channel establishment unit determining, by referring to the NUT setting information, whether a channel of interest should be set to the NUT setting so as to establish said NUT channel, and a route switch control unit recognizing a section in which said NUT channel has been established and a fault bypass control condition at the time of occurrence of a fault and performing a route switching control based on a result of recognition, wherein:

84198501\_1.DOC

Serial No. 10/090,939  
Page 10 of 13

the NUT setting information includes NUT table information that contains a start transmission device ID (identification) and an end transmission device ID that indicate a section in which the NUT channel should be established, a type of setting for setting the NUT channel, and a relay direction; and

said channel establishment unit recognizes and establishes the NUT channel via a designated write address in which the NUT table information should be written.